

DARLINGTON LOCAL DEVELOPMENT FRAMEWORK CORE STRATEGY EXAMINATION

POLICY CS3 PROMOTING RENEWABLE ENERGY: ON SITE PROVISION OF RENEWABLE ENERGY METHODOLOGY STATEMENT

Prepared by Darlington Borough Council, 3 February 2011

1. Introduction

- 1.1 This statement sets out the process and methodology underpinning the requirement that at least 20% of the energy supply at a strategic location should be provided from on site decentralised and renewable or low carbon sources including micro-generation and how this contribution will be delivered.
- 1.2 This statement has been prepared as a result of the public hearing session of the Examination to inform the consideration of Matter 2.2.

2. Justification for the 20% target and its application to strategic locations

- 2.1 Policy 38 of the Regional Spatial Strategy requires that major new developments of more than 10 dwellings or 1000m² of non-residential floorspace should secure at least 10% of their energy supply from decentralised and renewable or low-carbon sources, unless, having regard to the type of development involved and its design, this is not feasible or viable. The Council has been implementing this standard since 2008 and this was taken as the baseline position for CS3.
- 2.2 The Council commissioned SD018¹ to assess the policy requirements that could be set for new residential and non residential development to be supplied with decentralised and renewable or low carbon technology. In Table 4.1, p37 seven options were assessed against:
 - viability and feasibility;
 - flexibility in relation to helping to meet the Government's target of zero carbon in new development by 2016 (and future changes to this and related standards); and
 - ease of implementation by developers and planning officers.
- 2.3 The impact of viability and feasibility was an important consideration for SD018 and the Council's approach. Table 4.2, p42 provided further detail; the capability of different technologies to achieve different percentage reductions in CO₂ emissions (10%-100%) were assessed against four types of development likely to come forward in the Borough over the plan period:
 - Urban infill (approx 10-50 dwellings)
 - Regeneration mixed use (approx 100-1000 dwellings and commercial uses)
 - Large urban greenfield extension (500 dwellings and associated uses like community facilities and employment uses)
 - Employment area (offices, industry, storage and distribution)
- 2.4 Based on the evidence in these tables, SD018 recommended that there is clear potential to go beyond a 10% energy supply for larger mixed use and urban extension sites which are residential led in technical terms via the use of communal networks.

¹ Decentralised and Renewable or Low Carbon Energy Study Update, Entec 2010

- 2.5 SD018 recommended that a combination of Option 4 (at least 20% of the predicted energy supply for all new development to come from renewable energy) and Option 6 (energy hierarchy for all new development or just strategic locations) should be implemented. But the Council mindful of the costs that may be incurred to meet the requirements of Policy CS3 also considered the findings of SD007² This work found that housing development could be viable in some but not all parts of the Borough even where there was a notional cost provision of £2,500 per unit in build cost calculations (developments of 200 units or more), in addition to an uplift to the build costs to account for the relevant Code for Sustainable Homes Standards in the relevant year of implementation.
- 2.6 Taking all of this into consideration, the Council instead proposed to incorporate elements of Option 3 (at least 20% of a strategic locations predicted energy supply to come from renewable energy supply) and Option 6 as better reflecting the local situation in Darlington. The reasons for discounting the other five options in SD018 Table 4.1 are summarised as:

| Option | Council Justification for Discounting Option |
|--|--|
| Option 1: 10% of new developments predicted energy supply to come from renewable energy on all developments of 10 or more or developments of 1000sqm or more | The government's requirement that new development should be zero carbon in 2016 will mean that developments phased for delivery 2016 onwards will have to achieve more than 10% of their energy from decentralised and renewable or low carbon sources. So this option would become out of date very quickly. There is no flexibility in implementation. This option makes no allowance for off site provision or contribution to a carbon management fund. |
| Option 2: 10% of new developments predicted energy supply to come from renewable energy on all developments | Same as option 1 above but even with an additional clause allowing off site provision or contribution to the carbon management fund viability and feasibility on all sites particularly smaller sites and commercial development would be difficult to deliver. |
| Option 4: all new developments to secure at least 20% of energy supply from renewable energy | Even with an additional clause allowing off site provision or contribution to the carbon management fund viability and feasibility on all sites particularly balanced against other policy requirements like affordable housing and other planning obligations would be difficult to deliver. |
| Option 5: all strategic locations and/or new developments to secure at least 30% of energy supply from renewable energy | Same as option 4 above. |
| Option 7: requiring a specific level of energy performance in relation to the Code for Sustainable Homes | To bring forward the Code for Sustainable Homes timetable is hard to justify. Viability and feasibility on all sites particularly balanced against other policy requirements like affordable housing and other planning obligations would be difficult to deliver. |

- 2.7 Given the scale and type of development proposed at the strategic locations 20% was chosen as the appropriate threshold reflecting the lead-in times to development and phasing in policies CS5 and CS10 to achieve zero carbon in 2016. To be robust CS3 must ensure that the appropriate Code for Sustainable Homes standards (CSH) can be met for the number of homes likely to be built after 2014 and 2016. The majority of new strategic locations (excluding commitments) are expected to be delivered from 2016+ when development will have to be zero carbon and renewable energy is likely to be required to deliver this target. This complements CS2.

² Economic Viability of Housing Land in Darlington, June 2010, Level

- 2.8 The 20% threshold is also considered in SD018 to be the trigger point for a viable communal scale system which is the most cost effective approach to achieve the 2016 target. This view is supported by the Code for Sustainable Homes: A Cost Review (March 2010, p49): ‘For CSH6 *site-wide biomass CHP and district heating systems provide the lowest cost approach to achieving the required reduction on TER [target emissions rate]...*’
- 2.9 For the purposes of CS3 the strategic development locations that will be required to meet the 20% target are the Town Centre, Town Centre Fringe, Central Park, North Western Urban Fringe, Eastern Urban Fringe and Durham Tees Valley Airport. These are mixed use locations, comprising a series of interrelated development sites within a defined compact area. Based on SD018 and good practice cited by the Government the Council consider that there was ‘demonstrable opportunity’ to secure at least 20% from on site renewables.
- 2.10 The 20% target does not apply to the Rest of the Urban Area strategic location because it is likely to include numerous small scale development sites distributed across the urban area. SD018 indicated that smaller sites (urban infill) and employment sites may find a higher than 10% target more challenging as connection to an off site network is likely to be required. Viability and feasibility is a barrier given the costs associated with the installation of the necessary heating infrastructure in a location containing dispersed sites and the constraints within individual smaller sites to accommodate such a network. A change is proposed to paragraph 3.3.8 to insert this clarification (see DBC Post Submission Proposed Changes document).
- 2.11 The 20% target would be applied to all the development sites that make up a strategic location as defined by the AGDPD at its date of adoption (expected to be 2013). In exceptional circumstances where a site comes forward for development that is not allocated in the AGDPD, but falls within the strategic location it would be assessed as a major development (under the at least 10% target). The Council would use the approach set out in section 3 below to work out the appropriate target for that site, as it would for all other major development sites in the rest of the urban area. A definition is proposed to CS3 point 2. to insert this clarification (see DBC Post Submission Proposed Changes document).
- 2.12 Both the Core Strategy (para 3.3.9) and SD018 (p41, bullet point 4) also recognise that the viability of achievable targets will need to be weighed alongside other policy requirements like affordable housing, open space, infrastructure and other sustainability standards.
- 2.13 Flexibility is built in to Policy CS3 to accommodate this. It clearly states that the percentage contribution will be required unless it can be shown that it is not feasible or viable. Where it is claimed to be unviable, the Council would expect evidence to be submitted using the residual land value methodology as illustrated in the Economic Viability studies carried out by Level (SD007, SD035).

3. Delivery

- 3.1 This section illustrates how it is intended to deliver this policy in the strategic locations.
- 3.2 The predicted energy supply of each development is calculated by determining the total energy consumption of a site (baseline). This figure would be used to establish what amount of energy the percentage contribution from renewables relates to. In policy CS3 this relates to regulated energy (energy for space heating, hot water and internal lighting) as well as unregulated energy (including cooking, appliances and outdoor lighting).

- 3.3 The baseline will be equal to the total energy consumption of a site after energy efficiency measures have been taken into account (over and above Part L Building Regulations requirements) which in the case of the Code for Sustainable Homes (CSH) 4 is 25% over and above Part L Building Regulations requirements. While for CSH 5 and 6 there is 100% improvement above Part L this does not include unregulated energy use.
- 3.4 As Building Regulations only consider regulated energy in order for the Council to determine the total energy consumption of a site a percentage figure will be included to reflect the predicted unregulated energy supply. This figure is to be determined having regard to national standards like the BREDEM 12 Model (see www.bre.co.uk); a figure of 20% is considered indicative at this stage.
- 3.5 But it is important that developers do not consider the percentage contribution in isolation. Developers would be expected to follow the energy hierarchy approach in SD018 Option 6 and design an energy efficient development reflecting policy CS2 and the detailed guidance in the forthcoming Revised Design SPD. Energy efficiency measures will reduce the energy consumption of the development overall so that while the percentage contribution remains constant the energy needed from these technologies is lower. A change is proposed to paragraph 3.3.7 to insert this clarification (see DBC Post Submission Proposed Changes document).
- 3.6 For all applicable strategic locations the minimum 20% target would be applied to the whole location. The same approach would be used for major developments. In broad terms the following approach would be used:
1. The total baseline energy consumption of each development within a location is calculated using nationally recognised standards including National Home Energy Rating (NEHR), the Standard Assessment Procedure (SAP) and a range of standards from the Carbon Trust and an agreed percentage to reflect unregulated energy. This will provide the total predicted energy supply of the location.
 2. If the appropriate Code for Sustainable Homes level has been achieved then this would be subtracted from the baseline value (so in 2013 for CSH4 that would be 25%).
 3. 20% of the location's total predicted energy supply is calculated to work out the contribution required from renewable energy (in MWh/KWh).
 4. The percentage contribution from each development to meet the 20% is then calculated apportioned in accordance with their contribution to the overall predicted energy supply as identified in step 1.
 5. The developer must then decide which technology is suitable for the development and complete a simple calculation energy supply table as part of the Sustainability Statement to be submitted with the planning application.
- 3.6 An indicative example of how the contribution from each development would be apportioned is set out below:

| | |
|-----------------------------|------------------------------|
| Housing (1000MWh) (20%) | Retail (500MWh) (10%) |
| Industry (2500MWh) (50%) | Open Space |
| | School (1000MWh) (20%) |

| Type of Development | Total predicted energy supply = 5000MWh | 20% from renewables = 1000 MWh |
|---------------------|---|--------------------------------|
| Housing | 1000 MWh | 200 MWh |
| Industry | 2500 MWh | 500 MWh |
| Retail | 500 MWh | 100 MWh |
| School | 1000 MWh | 200 MWh |

- 3.7 SD018 estimates that new development could increase CO2 emissions by 6% to 568,000 tonnes in 2026 which in Entec's opinion will not have a significant impact on the Borough's annual emissions. However the Council considers that any addition to the Borough's carbon emissions would be significant as this goes against the policy direction at a national level (to achieve the target to cut CO2 by 80% by 2050) and at a sub regional level (to reduce carbon emissions by 20% by 2020 to meet the targets in the Tees Valley Climate Change Strategy, 2010 p31) and local ambitions. Policy CS3 together with CS2 and CS4 are designed to mitigate this impact and support the direction taken by national, regional, sub regional and local policy.
- 3.8 The % contribution required at each location and then for each development site within that location will be set out in the Accommodating Growth: Preferred Options DPD. Further details on the design elements of the energy hierarchy will be set out in the Revised Design of New Development SPD. This will include the requirements of a Sustainability Statement and energy calculation table that developers will be expected to complete and submit with a planning application to demonstrate how they have met the required target. All matters relating to securing off site provision and the carbon management fund will be set out in the Developer Contributions SPD and in the future the CIL Charging Schedule and associated documents.

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